Minerals Planning Policies and Supply Practices in Ireland.

Ike, P.; van der Molen, S.D.A.

Mineral Planning Policies and Supply Practices in Ireland

Commissioned by the European Commission Enterprise Directorate General under Contract nº ETD/FIF 2003 0781

P. Ike

S.D.A. van der Molen

Jan 2005

Faculty of Spatial Sciences

Department of Planning

University of Groningen

The Netherlands

Table of Contents

List of Tables

1 Country Background

1.1 Country Specifications

1.1.1 General Information

Size:

The Republic of Ireland: 70,283 square kilometers

Population:

The Republic of Ireland: 3.9 million (2002)

GDP:

The Republic of Ireland: € 135,200 million (2003) € 36104 per head

1.1.2 Political System

The Republic of Ireland is a republic with a democratic parliamentary system of government. The Head of State, the President, is elected for a period of seven years by the vote of the citizens. The national parliament is called the Oireachtas and consists of the President and two houses. These are the Dáil (The House of Representatives) and the Seanad (the Senate). The power of these two bodies derive from the Constitution of Ireland and law. The Dáil is the primary of the two houses. While government administration and policy may be criticised in both houses, the government is responsible to the Dáil only. The Irish Government consists of not less than seven and not more than fifteen members. The Head of the Government is the Taoiseach, who is appointed by the President on the nomination of the Dáil.

Local affairs are supervised by county councils (29), city councils (5) and borough and town councils (80).

Irish law is based on Common Law and is enshrined in the Constitution of 1937. Justice is administered in the public courts. Judges are appointed by the president and are usually senior figures in the legal profession.

1.1.3 Brief Description of Raw Material Policy

The Exploration and Mining Division (EMD) of the Department of Communications, Marine and Natural Resources is the responsible division for:

- Formulation and interpretation of minerals policy
- Administration of the State prospecting license and mining facility system
- Active promotion of mineral exploration and development

The mission statement of the Exploration and Mining Division is:

"To stimulate discovery of economic mineral deposits and to maximise the contribution of the mining sector to the national economy, with due regard to its impact on the environment"

(Department of Communications, Marine and Natural resources 2004).

The term "minerals" excludes stone, gravel sand, clay and peat. Policy in relation to stone, gravel and sand, clay is to allow their development by the Private Sector subject to proper Land Use Planning and environmental control. A large State company Bord na Mona operates many peat bogs with a commercial mandate subject to environmental and social responsibility, and there are also private developers.

The Department of Environment, Heritage and Local Government has overall policy responsibility for Sustainable Development, Land Use Planning and Environmental Control. Its mission statement is: "To promote sustainable development and improve the quality of life through protection of the environment and heritage, infrastructure provision, balanced regional development and good local government." Relevant objectives are:

- Planning Policy: "To provide a policy and legislative framework which facilitates and encourages development patterns consistent with the principles of proper planning and sustainable development, balanced regional development, conservation of the natural and built environment, quality in construction and urban and village regeneration."
- Environment: "To promote and protect a high quality natural environment, protect human health and secure the integration of environmental considerations into economic and sectoral policies"

These are applicable to minerals as to all industrial sectors.

2 General Description of Mineral Industry

2.1 Geology

The bedrock geology of Ireland is dominated by Lower Carboniferous, essentially carbonate sediments up to 3500m in thickness. These carbonates overlie, diachronously, Middle and Upper Devonian to basal Carboniferous red-bed siliciclastics which thicken towards the SSW to in excess of 6000m. These Devonian and Carboniferous sediments unconformably overlie the Caledonian "basement" of Lower Palaeozoic and Dalradian volcano-sedimentary sequences of varying metamorphic grade.

Andrew, C.J., (1993) Mineralization in the Irish Midlands in Mineralization in the British Isles (eds R.A.D. Pattrick and D.A. Polya), pp.208-269.

2.2 Production and Employment

Table 1: Minerals production Ireland in 2003(Source: Exploration and Mining Division1)

METALS	
Alumina (thousand metric tons)	1600
Iron and steel, crude (thousand metric tons)	Nil
Lead, mine output (tons)	50300
Silver, mine output, Ag content (kilograms)	8500
Zinc, mine output, Zn content (tons)	419000
INDUSTRIAL MINERALS	
Cement capacity, hydraulic (thousand metric tons)	4900
Gypsum (thousand metric tons)	600
Nitrogen, N content of ammonia (thousand metric tons)	Nil
Sand and gravel (thousand metric tons)	33000
Stone and other quarry products (thousand metric tons):	77000

According to the Irish Central Statistics Office's Census of IndustrialProduction, 5700 were employed in 2002 in mining and quarrying. This also includes peat production, and they will not give a breakdown, because of their confidentiality rules.

According to internal records of the Department of Communications, Marine and Natural Resources, 1300 people were directly employed in metal mining at the end of 2003.

There are no hard data for quarrying, etc. but a reasonable estimate would be 2,500 people.

The compatibility of the different numbers is doubtful, since they come from different sources and information on the aggregates sector is notoriously unreliable owing to the large number of SMEs involved.

2.3 Structure of Industry

Ireland is one of the major European producers of zinc and an important producer of alumina, lead and peat in 2001. Exploration activity for additional new mineral resources increased although the range of minerals exploited in the country has been limited (Harold R. Newman 2001).

Industrial mineral production has increased sustainedly in response to the rapid pace of economic growth in Ireland over the last decade.

Table 2: Structure of the mineral industry in 2003

Commodity	Major Operating companies and major equity owners	Location of main facility	Annual capacity (thousand metric tons)
Alumina	Aughinish Alumina 100% Glencore International AG	Aughinish Island, County Limerick	1600
Cement	Irish Cement Ltd: 100% CRH plc Lagan Cement Sean Quinn Group	Castle Mungret Limerick and Platin, Co Meath Killaskillen, County Meath Ballyconnell, County Cavan	4900
Gypsum	Gypsum Industries: 100% BPB	Knocknacran, County Monaghan	700
Lead-zinc, concentrate	Anglo American plc,	Lisheen Mine, County Kilkenny	Zn: 190* Pb: 28*
Do.	Arcon International Resources plc	Galmoy Mine, County Kilkenny	Zn: 85* Pb: 15*
Do.	New Boliden	Tara Mine, Navan, County Meath	Zn: 210* Pb: 40*
Peat	Bord Na Mona (Government Peat Board)	Production mainly in midlands	7000
* Contained metal in concentrates			

Table 3: *Top ten Exploration Companies ranked by Prospecting Licences held at 31 December 2003*(source: Minister for Communications Marine and Natural Resources, 2004)

COMPANY	PLS HELD
Tara Mines Limited	60
Conroy Diamonds and Gold Plc.	27
Minco Ireland Limited (incl. Joint license)	26
Noranda Exploration Ireland Limited	23
Navan Resources Plc	19
Aurum Exploration Limited	19
Asarco Exploration Inc.	15
Tourigan Gold Corporation	15
Arcon Exploration Plc. (incl. Arcon International Resources Plc.)	13
Central Mining Finance	12
Total	217

A further 56 licences are held by an additional 18 companies, i.e. a total of 28 companies hold 285 licences.

2.4 Imports and Exports

Table 4: *Main export figures for The Republic of Ireland* (source:British Geological Survey 2003)

Export figures Republic of Ireland			
Commodity	**Units**	**Quantity**	
		2000	**2001**
Primary aggregates	tonnes	327350	380067
Alumina	tonnes	1873414	1891293
Coal			
Anthracite	tonnes	32942	1285
Briquettes	tonnes	23638	20787
Gypsum			
Crude	tonnes	896	820
Calcined	tonnes	35199	37919
Lead	tonnes	48056	58150
Zinc			
Ores and concentrates	tonnes	331533	381072
Scrap	tonnes	632	296
Diamond	carats	24430000	5140000

Table 5: Main import figures for The Republic of Ireland (source:British Geological Survey 2003)

Import figures Republic of Ireland			
Commodity	**Units**	**Quantity**	
		2000	**2001**
Primary aggregates	tonnes	1056985	989926
Bauxite	tonnes	3232037	3493883
Coal			
Anthracite	tonnes	102388	282790
Other Coal	tonnes	1666083	1682981
Briquettes	tonnes	42306	42480
Gypsum			
Crude	tonnes	8639	8615
Calcined	tonnes	561	444
Lead			
Unwrought	tonnes	21083	24432
Scrap	tonnes	5974	9163
Salt	tonnes	82940	107438

2.5 Research and Technological Development

Minerals statistics are collected on a regular basis by the Central Statistics Office. The Exploration and Mining Division of the Department of Communications, Marine and Natural Resources collects production data, and publishes statistics on exploration

expenditure. The Geological Survey of Ireland is engaged in a number of projects to identify aggregate potential in several local planning areas. That organisation has also been engaged in work on the identification of waste sites from former mines. The Environmental Protection Agency has commissioned work to develop Environmental Guidelines for the Operation of Quarries. There are several research projects under way at Irish universities on aspects of the geology and metallogeny of the Irish base metal deposits.

2.6 Country Specific Legislation and Structures Governing Minerals Industry

2.6.1 Up to Date List of Laws Relevant to Securing and Producing Minerals

(Department of Communications, Marine and Natural Resources, August 2004)

- Minerals Development Acts
- Minerals Development Act, 1940 (No.31)
- Petroleum and Other Minerals Development Act, 1960 (No.7)
- Minerals Development Act, 1979 (No.12)
- Minerals Development Act, 1995 (No.15)
- Minerals Development Act, 1999 (No.21)
- Merchant Shipping (Investigation of Casualties) Act, 2000 (No.14)
- Planning and Development Act, 2000 (No 30 of 2000)
- Planning and Development (Amendment) Act, 2002 (No 32 of 2002)

Other applicable legislation:

- Local Government (Water Pollution) Acts, 1977 (No.1 of 1977) and 1990 (No. 21 of 1990)
- Air Pollution Act, 1987 (No. 6 of 1987)
- Environmental Protection Agency Act, 1992 (No. 7 of 1992)
- Waste Management Act, 1996 (No. 10 of 1996)

There are also numerous Regulations made under the above Acts, especially the Planning And Development Regulations, 2001 (S.I. No. 600 of 2001).

2.6.2 Government Agency Responsible for Minerals Industry

Department of Communications, Marine and Natural resources

2.7 Industry Organization

3 National System Legislation/Governing Ownership of Mineral Resources

3.1 Ownership of Minerals

There are two basic categories of earth resources in Ireland: "minerals" as defined in the Minerals Development Acts, and other materials. The former are defined as: all substances (other than the agricultural surface of the ground and other than turf or peat) in, on, or under land) but excluding stone gravel, sand and clay. The Minerals Development Act contains an indicative schedule of minerals but this is not exhaustive.

Some of the more important minerals comprehended by the Minerals Development Acts are:

- Coal
- Lignite
- Dolomite and dolomitic limestone
- China and ball clay
- Silica sand
- Gypsum and anhydrite
- Salt and potash
- Barites
- Fluorspar
- Tin, lead zinc and copper
- Mines of silver and gold

Materials used in the production of aggregates and cement, such as common clay and limestone are not normally regarded as minerals under these Acts, but this is subject to interpretation by the courts in specific circumstances and there is a considerable body of case law on the meaning of terms such as stone and clay.

Not all minerals are state owned. An estimated percentage of 35-40% of these scheduled minerals are privately owned. However, the exclusive right to work minerals is vested in the Minister for Communications Marine and Natural Resources other than minerals which were already being privately worked on the 15th December 1978. Compensation must be paid to the private minerals owner if they are worked.

To carry out exploration activities for all minerals comprehended by the Minerals Development Acts, it is necessary to obtain a prospecting licence from the State. In addition to a prospecting licence a separate mining lease or licence is also required to extract these minerals, including an agreement on royalties payable to the state.

3.2 Processes and Procedures Existing to Obtain Mineral Rights

In Ireland Prospecting Licence Competitions are held every three months. During these competitions all the surrendered, terminated or offered but declined licences are listed. Parties who are interested have two months to apply for these competition areas. The list with prospecting licences is published on the first of:

- February
- May
- August
- November

Publications made on the first of May and November also include updating of current licence details, industry news, revised map of State Mining and Prospecting Areas etc. The publications made on the first of February and August are not that extensive. They provide a competition list of prospecting licenses issued or offered and advertised since the previous publication (Department of Communications, Marine and Natural resources 2004a).

3.3 Regulations in Force Controlling Mineral Exploration Activities

Under the Mineral Development Act it is necessary to obtain a prospecting licence prior to carrying out exploration activities in relation to any minerals, as outlined above. All such exploration is exempted from the requirements of the Planning and Development Act 2000. No Licence is required for the exploration of other materials, but Planning Permission may be required. Having a licence for exploration does not mean that these minerals can also be extracted. Extraction of these minerals requires a mining lease or licence.

3.4 Regulations and Administrative Procedures Controlling Access to Mining Land

The control of access to minerals and associated land falls into two categories: a) those relating to ownership of minerals, and b) those relating to land use planning and environmental control.

a) Mineral Ownership

   As in many other jurisdictions, a distinction must be made between minerals as defined in Irish law, and other earth resources. The latter comprise stone, sand and gravel, clay and peat, and the ownership of these is a matter for ordinary property law. Their ownership is often, but not universally, linked to the ownership of the land and is usually in private hands. Many but not all minerals in the strict sense of the term are in State ownership. The right to work minerals is controlled by the Mineral Development Acts, and, with a very few site specific exceptions, is vested in the State, whether or not they are State owned.

b) Land Use Planning and Environmental Control

Land Use Planning operates through a system of Development Plans, followed by decisions on individual applications for specific developments. Decisions are initially made by Local Planning Authorities, but may be appealed to a national agency: An Bord Pleanala. The extractive industry is generally treated no differently from any other in this regard. There is both extensive legislation and also a multiplicity of court decisions interpreting it. The legislation was rewritten and consolidated in the Planning and Development Act 2000 and its associated regulations.

4 National System Governing Securing Supply of Minerals

4.1 Exploration

4.1.1 Role of National Government in Exploration

(Department of Communications, Marine and Natural Resources 2004)

In the recent years the Irish government started new initiatives to assist in minerals exploration. The aim of these initiatives is to encourage exploration investment and stimulate interest. The four initiatives are:

1) The MAPS Initiative
2) Airborne Data release Initiative 2001
3) Exploration Data Release Initiative 2002
4) Airborne Magnetic Interpretation Initiative

4.1.1.1 MAPS (Minerals Administration Programme Support).

The aim of this programme is: "to provide industry globally with all the information and available background needed to assess ground and handle the business requirements of exploration permitting through the internet". Key elements are:

- Streamlining internal processes
- Automated regulatory procedures leading to quicker permitting
- e-Enabled business
- free web access to all (geographically based) data

4.1.1.2 Airborne Data Release Initiative 2001

Since 1995 surveys have been carried out over 58 areas under the EMD open skies policy. About 35 % of the country is now covered by these surveys. For a period of 4 years this data is confidential, after this period the data is available to the public. The first survey was released in 2001.

4.1.1.3 Exploration Data Release Initiative 2002

By this initiative data from Prospecting License areas is released. This release provides a wealth of previously unavailable information and is free of charge. All information (reports, drill logs and maps) is in digital format.

4.1.1.4 Airborne Magnetic Interpretation Initiative

The objectives of this initiative are:

- Interpret the basement structure, tectonic framework and lithology from the airborne geophysical results

- Correlate and combine these results with the known geology of central Ireland to aid identification of potential exploration targets for base metal mineralisation.

This initiative is a Public-Private Participation Programme

4.1.2 Procedures for Obtaining Permission for Exploration Activity

See Section 3.3

4.2 Extraction

4.2.1 Authorising Mineral Extraction

A planning permission is obtained from the local planning Authority. One of the most important requirements is an Environmental Impact Statement which has to be prepared by the developer, containing an analysis of the likely effects of the project on people, flora, fauna, soil, water, landscape etcetera. This must be prepared for all minerals subject to the Minerals Development Acts and for other proposed surface extraction involving more than 25 ha.

The Planning Authority has two months to decide whether to:

1) Grant with or without conditions.
2) Refuse with reasons.
3) Ask for more information.

After reply by the developer, the Planning Authority has another two months to make its decision.

Concerning conditions, the planning authorities have broad freedom. These conditions though have to be reasonably related to the development. Common planning conditions are:

- Replacement of water supplies affected by the development
- Upgrading roads
- Landscaping
- Control and monitoring of subsidence
- Provisions for closing the operation once the deposit has been mined out

Appeals can be made to the Planning Appeals Board. The board will make its decision normally within four months (Department of Communications, Marine and Natural resources 2003)

4.2.2 Period for which Authorisation is Valid

The validity varies. If unused, the permission is valid for a period of five years. The permission will normally last for the lifetime of the development if a minerals development commences within the five-year period following the granting of planning permission.

4.2.3 Use of Legal Agreements

A local authority is enabled through the 2000 Planning Act to enter into separate legal agreements with the developer. This is in addition to the granting of planning permission

If a mining lease or licence is required under the Minerals Development Acts, an application fee is charged. This varies from €6300 for small industrial minerals operations to €19,000 plus €0.13per tonne of planned annual output for metalliferous mines.

The terms of mining leases and licenses are individually negotiated. The terms are related to ownership issues and commonly include:

- Period of validity, which is normally related to the projected mine life
- Compliance with best practice
- Provisions to avoid and mitigate damage to surface lands and water supplies
- Payment of a rent and royalty varying from about €0.5 to €1.tonne for industrial minerals, to a percentage of revenue for metal mines.
- Recoupment to the State of any compensation payable to private mineral owners
- Bonding to ensure rehabilitation.

4.3 Restoration and Aftercare

The Environmental Protection Agency published a document called "*Environmental Management in the Extractive Industry; Environmental Management Guidelines"* (2003). This document refers to a number of publications providing guidelines for the restoration of quarry developments. Guidelines on restoration and aftercare listed are:

- Consider and develop restoration scheme at the earliest possible stage in the planning of quarry developments;
- Consult with interested parties regarding afteruse/restoration options;
- There are a number of afteruses that can be considered, including:
    - Agricultural
    - Forestry
    - Amenity
    - natural habitat
    - landfill – waste disposal
- Implement progressive restoration, where possible;
- Maximise soil recovery during stripping operations, and store topsoil and overburden materials separately;
- Retain topsoil and overburden to ensure the materials can be re-used in restoration;

- Provide an appropriate programme of maintenance and aftercare

(Environmental Protection Agency,2003)

Major mineral developments will be required to produce detailed closure plans for approval, and provide effective sureties to guarantee that sufficient funds will be available at all times for rehabilitation and aftercare. These plans will be periodically reviewed during the lifetime of the operation, including revision of the surety where necessary.

The responsibility for restoration and aftercare lies with the extractive industry, unless assumed by a Public Authority.

4.4 Monitoring and Enforcement

4.4.1 Codes of Practice

The Minister of Communications, Marine and Natural Resources has issued guidelines for Good Environmental Practice in Minerals Exploration which are mandatory. These guidelines are based on a number of principles:

- Environmentally responsible management should be an integral component of all exploration programmes;
- For the protection of the environment there should be compliance with all relevant government and regulations. Best practice in environmental management standards shall be maintained in conjunction with effective exploration where such laws and regulations do not adequately protect the environment.

4.4.2 Monitoring

Mineral operations are periodically inspected by the Department of Communications, Marine and Natural Resources and the Health and Safety Authorities as well as by local authorities and the Environmental Protection Agency (Department of the Environment 1995).

4.4.3 Enforcement

The agency responsible for the enforcement of existing environment licence or permit conditions is the Environmental Protection Agency. It has the duty to supervise the statutory environmental monitoring carried out by local and other prescribed public authorities. The Environmental Protection Agency (EPA) prepares and implements its own environmental monitoring programmes (Department of the Environment 1995).

The EPA is bound to:

- Provide public access to all its monitoring results.
- Establish and maintain a database of information on environmental quality to which the public will have access.
- Publish regular reports on the state of the environment.

Local Authorities have extensive powers to enforce the terms of planning permissions, and to take action against any unauthorised developments

Exploration programmes under prospecting licences are approved by the Department if Communications Marine and Natural resources, and failure to follow these may lead to forfeiture of the Licence. Mining Leases and Licenses contain provisions by which the Minister can require work to be done. Breaches of their terms can lead to their termination.

4.5 Environmental Damage/Rehabilitation

4.6 Fees and Compensation

See Section 4.2.

5 Land Use Planning

5.1 Sustainable Development, Strategic Planning

The National Spatial Strategy for Ireland 2002-2020, People, places and Potential (Department of the Environment, Heritage & Local Government 2002) defines sustainable development as: "development that meets the needs of this generation without compromising the ability of future generations to meet their needs".

5.2 Forward Planning For Minerals

The Irish Department of Communications, Marine and Natural Resources sets out the following objectives:

- To maximise the level of minerals exploration by marketing Ireland's potential to attract national and international investment.
- To collect fees for prospecting licences and negotiate equitable contracts with developers to secure fair financial benefits for the State.
- To foster and regulate the minerals sector so that it operates in accordance with the environmental, social and economic pillars of sustainable development.
- To gather and analyse intelligence on the E & M industry nationally and internationally, to inform policy/decision-making.
- To formulate national minerals policy proposals and influence policy at international level so as to promote the interests of the State.
- To implement Departmental policy in relation to customer service to ensure that a top class service is provided to customers.
- To ensure, through appropriate management, that Divisional staff perform and develop to their full potential.
- To provide an efficient service to the Minister, Minister of State and other members of the Oireachtas so that they may properly fulfil their representative role.

(Department of Communications, Marine and Natural Resources 2004b)

The Department of Communications, Marine and Natural Resources exercises control of minerals subject to the Mineral Development Acts through the issuing of Prospecting Licences and Mining Leases and Licences for the exploration and extraction of minerals respectively (Department of the Environment 1995).

5.2.1 Planning Framework for Minerals: Land, National, Regional, County, Local

There are three tiers of government:

- National

- Regional
- County and District

The Exploration and Mining Division of the Department of Communications, Marine and Natural Resources is responsible for the minerals policy framework. This division is also responsible for the State prospecting license and mining facility system.

The regional authorities have an advisory and co-coordinating role in relation to the activities of the local authorities and other public bodies in their region.

The Department of Environment, Heritage and Local Government has overall policy responsibility for Sustainable Development, Land Use Planning and Environmental Control.

The local authorities create development plans in which they set out their policies. Planning applicants are determined through these development plans. Local authorities are responsible for control of scheduled and non-scheduled mineral development (Department of the Environment 1995).

5.2.2 Development Plans

1) Drafting of the development plan by the Officers of the planning authority.
2) Discussion with the elected members.
3) Approval in draft form by the members.
4) Displayed for public comment for a period of three months.
5) Sending of the plan during this period to a series of statutory consultees, including:
    a) Minister for the Environment and the Minister for Communications, Marine and Natural resources.
    b) The National Roads Authority
    c) The Tourist Authority
    d) Every planning authority in the area to which the draft relates

5.3 National System Governing Land Use Planning

The Department of the Environment is responsible for the establishment of planning legislation and for overall planning and environmental policy at national level. In 2002 the National Spatial Strategy (NSS) for Ireland was established. The NSS sets out an ambitious view for the future development of Ireland and provides a framework for all sectors of society, national government, regional and local authorities. The NSS states that best use needs to be made of natural resources and therefore sustainable development is at the hart of the NSS.

The Exploration and Mining Division (EMD) of the Department of Communications, Marine and Natural Resources has responsibility for government policy in relation to minerals exploration and development. The core policy goal of the EMD is to stimulate discovery of economic mineral deposits and to maximise the contribution of the mining

sector to the national economy, with due regard to its environmental and social impact. The EMD uses four strategic objectives:

Strategic Objective 1

Maximise the Level of Exploration for minerals

Strategic Objective 2

Equitable permitting regime for prospecting (Prospecting Licences) and mining (State Mining Facilities - Leases and Licences)

Strategic Objective 2

To require and facilitate sustainable development in the minerals sector

Strategic Objective 4

Well informed policy and decision-making processes

(Department of Communications, Marine and Natural resources 2004b)

5.4 Regional System Governing Land Use Planning

The development of Ireland in the last decade has been remarkable. However, this development has been uneven: some areas developing faster than others. The result is congestion and rapid development in some areas, but underdevelopment in other areas.

Balanced regional development is fundamental to the National Spatial Strategy. The NSS is supported by regional planning guidelines, integrated planning frameworks, county and city development plans and strategies. These regional planning guidelines provide a 20-year strategic planning framework for the region and will be incorporated into individual development plans. The regional guidelines are made up of two parts: Strategy and Guidelines.

Strategy:

- Overall goals
- Broad trends
- Key issues relevant to strategic planning

Guidelines:

- Options and scenarios
- Physical planning and development principles

The legislative framework for these guidelines is the Planning and Development Act 2000. This framework sets out a list of key matters that need to be addressed, in accordance with the principles of proper planning and sustainable development.

5.5 Non-Legislative Considerations at State, Regional or Local Level

6 Evaluation of Sustainability of Mineral Supply

6.1 Identifying Approaches which have Shown Demonstrable Successes and Those that have Failed

6.2 Identifying Key Elements of Successful Mineral Planning Approach Respectively Recommendations

6.2.1 Competitiveness

Because of Ireland's geology, Ireland has become one of the major European producers of zinc and is also an important producer of alumina (based on imported bauxite), lead and peat. One of the world's largest zinc/lead mines is located near Navan, County Meath.

The Irish Government does not carry out any forecasts for the demands for non-energy minerals because it is a market driven situation.

One of the categories for controlling access to minerals and associated land is those relating to ownership of minerals. The right to work minerals, other than stone gravel sand, clay and peat is controlled by the State, and access will not be a problem for suitably qualified developers. The ownership of other resources is often, linked to the ownership of the land. It is usually in private hands and access is market-controlled.

6.2.2 Societal Benefits

Minerals are essential for modern living since they provide vital raw materials. Major infrastructure programmers currently underway in Ireland, especially the construction of new roads, are predicated on a cost-effective supply of suitable aggregates. Metal mines provide quality jobs in rural areas, with limited alternative employment options, and contribute further to local economic development through purchase of local goods and services, as well as providing improved infrastructure such as roads and water supplies in many cases. They contribute to the Exchequer through payment of royalties and taxes (local and national).

6.2.3 Environmental Protection

Environmental control is exercised through two methods. For mines and large plants, an Integrated Pollution Control Licence is required. This is analogous to the IPPCL system enacted at European level. It relates to air and water pollution, noise and vibration and waste. A key aim is to minimize risk to the whole environment by preventing the emission of potentially polluting substances wherever practicable, or to minimize such emissions where this is not possible (Department of Communications, Marine and Natural resources, 2004c). There is a simpler system for quarries which operates at Local Planning Authority level through the Water and Air Pollution Acts, and through the Planning System.

In November 2003 the draft version of the Environmental Management Guidelines for the extractive industry was published. They represent a summary of current environmental management practice for quarries and ancillary facilities. One of the sets of guidelines mentioned in this draft notice is the waste management guidelines. To create a successful waste management approach, the extractive industries have to:

- Eliminate and minimise the production of waste;
- Re-use and recycle unsuitable materials;
- Re-use and recycle rejected products from block making, concrete and asphalt;
- Ensure appropriate disposal of excess/unused explosives, in accordance with the manufacturer's guidelines and health & safety regulations;
- Use designated storage areas for particular waste types and authorised waste contractors for the collection, re-use and disposal of waste oils, batteries, tyres, domestic waste and scrap metal;
- No burning, disposal or mixing of waste materials, or use of waste materials in boilers should take place without prior consent of the local authority;
- Appropriate security and signage around entrances and boundaries to deter and prevent illegal fly-tipping of waste materials by third parties;
- Hazardous materials should be stored on site in designated areas and collected and recycled or disposed of by an authorised waste contractor.

(source: Environmental Protection Agency, 2003)

To achieve these goals, each quarry operator should implement an ongoing environmental monitoring programme. Monitoring results should be submitted to the local authority on a regular basis and be available at the local authority offices for review by any interested third parties. It is envisaged that parts of these guidelines will be included or referenced to in the "Planning Guidelines" by the Department of the Environment, Heritage and Local Government, under section 261 of the Planning & Development Act, 2000 – Control of Quarries (Environmetal Protection Agency, 2003).

Besides these waste management guidelines, the Environmental Protection Agency produced environmental management guidelines for

- Ecology;
- Surface water;
- Groundwater;
- Air quality;
- Noise & Vibration;
- Landscape, Restoration & afteruse;
- Waste management;
- Archaeological heritage;
- Transport & traffic;

- Energy;
- Environmental Management & Monitoring.

7 Identification of the Best Practices to Ensure Sustainability of Mineral Supply

7.1 Best Practices for Cost Effective Administrative Legislative Procedures

In Ireland no Minerals Policy Guidelines such as the UK Minerals Planning Guidances exist. However, national policy concerning mineral extraction and all his aspects is embedded in several policy documents such as Statement of Strategy 2003-2005, Agreed Programme for Government between Fianna Fáil and the Progressive Democrats, Quarries and Ancillary Activities; Guidelines for Planning Authorities. The absence of a clear national policy document concerning minerals extraction creates a vague situation.

Every application for a prospecting licence shall be made in accordance with the Minerals Development Act. The Minerals Development Act states that requirements can be made for the financial standing of the applicant and his technical qualifications. One of the most important requirements is an Environmental Impact Statement which has to be prepared by the developer, containing an analysis of the likely effects of the project on people, flora, fauna, soil, water, landscape etcetera. This must be prepared for all minerals subject to the Minerals Development Acts and for other proposed surface extraction involving more than 25 ha. These requirements can be considered as good practice.

In Ireland every three months Prospecting Licence Competitions are held. By making use of this system, all interested parties know which licences are terminated or declined. All interested parties have the opportunity to apply for competition areas. Twice a year a publication is made. These publications include updating of current licence details, revised map of State Mining and Prospecting Areas, etc. (Department of Communications, Marine and Natural Resources 2004a). This Competition makes the authorisation process a very transparent one where all interested parties have equal opportunities

In 2002 the National Spatial Strategy (NSS) for Ireland was established. The NSS sets out an ambitious view for the future development of Ireland and provides a framework for all sectors of society, national government, regional and local authorities. The NSS states that best use needs to be made of natural resources and therefore sustainable development is at the hart of the NSS. The recognition at the national level of the importance of mineral resources is considered good practice. Regional governments, who use the NSS as a framework for their regional spatial plans, also recognize the importance of mineral resources as a form of land use. A better use of natural resources (including minerals) should strengthen regional economics (Department of the Environment, Heritage & Local Government 2002). These developments can be considered good practice.

The Minister of Communications, Marine and Natural Resources has issued guidelines for Good Environmental Practice in Minerals Exploration which are mandatory. These guidelines are based on a number of principles:

- Environmentally responsible management should be an integral component of all exploration programmes;
- For the protection of the environment there should be compliance with all relevant government and regulations. Best practice in environmental management standards shall be maintained in conjunction with effective exploration where such laws and regulations do not adequately protect the environment.

The use of Guidelines for Good Environmental Practice in Minerals Exploration is considered good practice. Monitoring the mineral operations periodically by the Department of Communications, Marine and Natural Resources and the Health and Safety Authorities as well as by local authorities and the Environmental protection Agency is considered good practice. Local authorities have extensive powers to enforce the terms of planning permissions, and to take action against any unauthorized developments.

Environmental control is exercised through two methods. For mines and large plants, an Integrated Pollution Control License (IPCL) is required. This is analogous to the IPCL system enacted at European level. It relates to air and water pollution, noise and vibration and waste. A key aim is to minimize risk to the whole environment by preventing the emission of potentially polluting substances wherever practicable, or to minimize such emissions where this is not possible (Department of Communications, Marine and Natural resources, 2004c). There is a simpler system for quarries which operates at Local Planning Authority level through the Water and Air Pollution Acts, and through the Planning System. The use of an Integrated Pollution Control License system analogous to the IPCL system at European level, and the distinction of quarries at Local Planning Authority level, through the Water and Pollution acts and the Planning System, is regarded good practice.

8 References

British Geological Survey (2003), *European Mineral Statistics 1997-2001: A product of the world Mineral Statistics database,* 2003, Keyworth, Nottingham, ISBN 0 85272 452 7

Department of Communications, Marine and Natural resources (2003), *Exploration and mining facilities,* http://www.dcmnr.gov.ie/files/explormi.pdf, October 2003

Department of Communications, Marine and Natural resources (2004), *New initiatives to assist in Minerals Exploration,* http://www.emd.ie, February 2004

Department of Communications, Marine and Natural resources (2004a), *Competition Ground,* http://www.dcmnr.ie/diplay.asp?pg=1086, February 2004

Department of Communications, Marine and Natural resources (2004b), *Key objectives,* http://www.dcmnr.ie/diplay.asp?pg=886, February 2004

Department of Communications, Marine and Natural resources (2004c), *Environmental safeguards the Irish way,* http://www.dcmnr.gov.ie/media/files/emd/publications/environs.pdf, July 2004

Department of the Environment (1995), *Minerals Planning Policy and Supply Practices in Europe,* 1995, HMSO, London

Department of the Environment, Heritage & Local Government 2002, *National Spatial Strategy for Ireland 2002-2020: People, Places and Potential,* 2002, Stationery office, Dublin

Environmental Protection Agency (2003), *Environmental Management in the Extractive Industry; Environmental Management Guidelines,* (http://www.epa.ie/techinfo/EnvGuideFinalConsultDraftTP.pdf), referred June 2004

Harold R. Newman (2001), *The mineral industry of Ireland,* http://minerals.er.usgs.gov/minerals/pubs/country/2001/eimyb01.pdf, referred June 2004

9 Appendices